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Sex Differences in the Utilization of Physical Attractiveness and Trait Favorability in Impression Formation

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SEX DIFFERENCES IN THE
UTILIZATION OF PHYSICAL ATTRACTIVENESS
AND TRAIT FAVORABILITY IN IMPRESSION FORMATION

by

Anthony A. Kopera

A Dissertation Submitted to the Faculty of the Graduate
School of Loyola University in Partial
Fulfillment of the Requirements for
the Degree of
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INTRODUCTION

Research in impression formation--or how we form impressions of others--is directly traceable to Asch's 1946 article on "Forming Impressions of Personality" (Anderson, 1962; Bruner & Tagiuri, 1954; Hastorf, Schnieder, & Polefka, 1970; Rosenberg, 1968; Wishner, 1960). He is credited not only with stimulating interest in the problem, but with providing a paradigm for experimental research (Hastorf, et al., 1970; Wishner, 1960).

Asch (1946) presented Ss with a number of traits said to belong to a person, and instructed them to describe the impression they formed of that person. Ss were asked to write a brief sketch of the person and to select from a series of opposite traits those which were consistent with the impression they had formed. In one study, for example, Ss were read the following list: intelligent, skillful, industrious, warm, determined, practical, cautious. A second group was read the same list, with "cold" replacing "warm". Asch reported striking differences in the impressions formed as responses to the two lists. Those Ss who were read the list which included "warm" gave much more positive descriptions than those who were read

the list containing "cold".

Asch (1946) then reports on a series of experiments in which he varied the trait-words in the lists and the order in which the words were presented. The results of his experiments are not a point of contention (Wishner, 1960), but his interpretation of them has been (Anderson, 1962, 1971a, 1971b; Anderson & Lampel, 1968; Bruner, Shapiro & Tagiuri, 1958; Bruner & Tagiuri, 1954; Wishner, 1960). According to Asch (1946), impressions formed are attempts to get at the root of personality, and are not simply made up of the sum of independent traits. Some traits, called central, determine both the content and the function of other traits, called peripheral. Central traits thus have the power to change the meaning of peripheral traits. Evidence to substantiate his position comes from sketches his subjects wrote in response to the list of traits given above. When "warm" was included in the list a typical sketch was as follows: "A person who believes certain things to be right, wants others to see his point, would be sincere in an argument and would like to see his point won." (p. 263). When "cold" was substituted for "warm", a typical sketch was as follows:

"A very ambitious and talented person who would not let anyone or anything stand in the way of achieving his goal. Wants his own way, he ~~is~~ determined not to give in, no matter what happens" (p.263). The written sketches demonstrated to Asch that the terms "warm - cold" did not simply add a new quality but to some extent transformed the other characteristics." Asch concludes that the results of his experiments "are in glaring disagreement with the elementaristic thesis which assumes independent traits (or traits connected only in a statistical sense) of constant content" (p.285).

A second interpretation, rejected by Asch (1946), is that the total impression of a person is the sum of several independent impressions, perhaps influenced by a general impression which shifts the affective evaluation of traits but not their meaning. If Asch's conclusion is correct in rejecting this explanation, then inferences drawn from combinations of traits cannot be predicted from the inferences drawn from those same traits when taken singly. Bruner et al. (1958) addressed themselves to this problem. Ss were

given the traits considerate, independent, intelligent, and inconsiderate, one at a time, and were asked whether people possessing these traits very often are, tend to be, may or may not be, tend not to be, or seldom are aggressive, awkward, active, and so on for 59 different traits. Different Ss were then given the same task but were asked about people who possess a combination of traits, for example, intelligent and inconsiderate. It was found that, based on the inferences drawn from single traits, correct prediction could be made for inferences from traits in combination with 97 per cent accuracy.

Following the lead provided by Bruner, et al. (1958), but sticking more closely to Asch's paradigm, is the work of Wishner (1960). Fifty-three of the traits used by Asch were selected for study. Opposites were found for each. Each pair of opposites was placed on a 6-point scale, for example: very warm, moderately warm, somewhat warm, somewhat cold, moderately cold, very cold. Ss were then asked to rate their instructors on each of the 53 traits, and correlations were determined among all the traits. Wishner interpreted the

resulting correlations as indicating that predictions in an Asch-type situation can be made from a priori independent knowledge of the relationship between the traits to be rated and the stimulus traits. This means that if the traits "warm - cold", used as stimuli, are varied, variation in the responses will be in those traits which correlate highly with the warm - cold dimension, but not in those traits which show a low correlation with that dimension.

Hastorf, et al., (1970) characterize Asch's formulation of the impression process this way: from stimulus traits, to an unpredictable intervening impression capable of generating inferences, to the response inferences (p.39). The work of Bruner, et al., (1958), and Wishner (1960) suggest that we draw inferences directly from information we have, that is, without an intervening impression.

Anderson (1962) tested this hypothesis by using a simple mathematical model to predict the likeableness of a person described by various trait combinations. Implicit here is the assumption that the information traits give is of some affective value, and that Ss'

affective responses to traits can be predicted from the knowledge of the affective value those traits possess. Accordingly, a series of traits was pre-scaled for likeableness. Combinations of traits were formed and predictions were made as to how much the Ss would "like" a person described by such combinations. The trait combinations were then read to Ss who indicated on a 20-point scale the "likeableness" of such persons. The resulting correlation of .967 between predicted and obtained responses indicates Anderson's model has high predictive value. In evaluating the results, Anderson concluded "...it was as though the subjects assigned a value to each single adjective and, when presented with a set of adjectives, gave the mean of the corresponding values as his response" (p.818). This is exactly opposite to the interpretation Asch (1946) offered for the results of his experiments.

The results of numerous experiments, reviewed by Anderson (1968a, 1971a), lend support to the argument against Asch's position by demonstrating the adequacy of mathematical models, although the experiments

dealing directly with the possibility of a change of meaning yield data which give rise to differing interpretations (Anderson, 1971a, 1971b; Anderson & Lampel, 1965; Wyer & Dermer, 1968; Wyer & Watson, 1969).

Heterogenous Stimuli in Impression Formation

Studies in impression formation generally deal with homogenous stimuli, e.g., trait adjectives. A variation was done by Lampel and Anderson (1968) who presented Ss with a word-photo combination. The Ss, females, were shown a photograph of a male, scaled for physical attractiveness, in combination with two traits, scaled for likeability. Each S was then asked to rate each person on how much she would like to date him. The data were analyzed using analysis of variance, and the results indicated a main effect for both adjectives and physical attractiveness; that is, a person attributed traits of a higher value was rated more desirable as a date than one attributed lower traits, and persons of higher physical attractiveness were rated higher than those of lower physical attractiveness. This is consistent with what we might expect.

A result, perhaps not as easily predictable but not surprising after the fact, is the significance of the interaction between words and photos reported. The interaction is such that the words carry more influence as the value of the photo increases. Lampel and Anderson (1968) interpret the results as indicating an inverse relationship between the rated attractiveness of the photo and its importance; that is, lower rated photos carry more weight in the impression formation task. This being the case, the adjectives are discounted or disregarded when in combination with a photo of low value, but play a more prominent role when in combination with more highly valued photos. More specifically, Ss look first for physical attractiveness and then for favorable traits. If the person has low physical attractiveness, the traits do not matter. This is not surprising in light of research on physical attractiveness. Walster, Aronson, Abrahams, and Rottman (1966), in a controlled computer dating situation, found physical attractiveness to be the only important determinant of an S's liking for his or her date; Sigall and Aronson (1969) found that attractive persons are better liked than unattractive ones;

Miller (1970) found that unattractive persons are associated with the negative pole of adjective scales and attractive persons are rated more positively; Cavior and Boblett (1972) found a correlation of .73 for physical attractiveness within married couples. These studies serve to point out that levels of physical attractiveness play an important role in attraction or impression formation.

One question which can be asked is the value placed on physical attractiveness by males and females. Commonly, males are said to value physical attractiveness more than females. As a result of their dating study, Walster et al. (1966) state that attractiveness is just as important a determinant of liking for females as for males; i.e., the correlation between liking and physical attractiveness is .78 for males and .69 for females. These correlations are both high, but Stroebe, Insko, Thompson and Layton (1971), computing from the data of Walster et al. (1966), found the differences between the two correlations to be significant. The direction of the differences is consistent with common beliefs, as well as the reports by Berscheid and

Walster (1972), and Murstein (1971), that males value physical attractiveness more than females. Murstein (1971) also reports that females give greater weight to professional aspirations in making judgments of marital partners than do males. Of course, this makes some sense given the traditional roles of men as breadwinners and women as housekeepers, with the man's job-potential being more important than the woman's. It also suggests that women consider characteristics other than physical attractiveness more important than do men.

Byrne, London, and Reeves (1968) presented Ss, males and females, with Xerox copies of photographs of men and women, of either high or low attractiveness, coupled with responses to attitude scales, arranged to be either similar or dissimilar to those of the S. The dependent variable, called a measure of interpersonal attraction, was the sum of ratings on two 7-point scales, one for likeability, and the second indicating the desirability of the bogus stranger as a work partner. A 2x2x2x2 analysis of variance, for sex of stranger, sex of S, two levels of physical attractiveness, and two levels of attitude similarity, yielded significant

main effects for attractiveness and attitude similarity, but none for sex of S or sex of stranger. The results indicate, as expected, that attractiveness and attitude similarity play a role in determining judgments of males and females by males and females. If it is true that males value physical attractiveness more than females, and females value characteristics other than attractiveness more than males, sex by attractiveness and sex by attitude similarity interactions would also be expected. There was indeed a sex by similarity interactions, similarity having a greater effect on female Ss. There was, however, no significant sex by attractiveness interaction. Stroebe, et al. (1971) point out that this may be because Xerox reproductions of photos were used as stimuli, the Xeroxing process diminishing the difference in attractiveness in the two levels used by Byrne, et al. (1968). It may be for the same reason that the attractiveness by attitude similarity interaction was not significant, a finding unexpected if the discounting hypothesis of Lampel and Anderson (1968) is correct.

Stroebe, et al. (1971) were interested in investigating sex differences and possible interactions between

sex of subject, attractiveness, and attitude similarity. They presented their Ss with a picture of an opposite sex other, either high, moderate, or low in physical attractiveness, and an attitude questionnaire with responses supposedly given by the person pictured which were of high, moderate, or low similarity to the S. Ss were asked to rate on a 7-point scale how much they thought they would like the person, how desirable it would be to work with the person, how desirable it would be to date the person, and how desirable it would be to marry the person. Analysis of variance showed significant main effects for similarity and attractiveness, but not for sex of S. A sex of S by attitude similarity interaction reached significance for liking and working, but not for dating and marrying, with similarity valued more by females. Sex of S by attractiveness interactions were significant for working, dating and marrying, but not for liking, with the effects of attractiveness stronger for males than for females. The attitude similarity by attractiveness interaction was significant only for marrying. When a separate analysis was done for each sex, based on the combined ratings of

all four scales, the interaction between similarity and attractiveness failed to reach significance, $p < .20$ for males, and $p < .10$ for females. However, in the one case when significance was reached, the results were consistent with those of Lampel and Anderson (1968) in so far as the effects of similarity were greater for attractive rather than unattractive others. The results of the study by Stroebe, et al. (1971) are generally what one would expect, viz., physical attractiveness is more important for males, other characteristics for females, and attitude similarity has more effect in combination with attractive others than with unattractive others. However, these results are not obtained as often as might be expected.

Miller (1972) varied physical attractiveness, attitude similarity and trait favorability and measured Ss' responses as did Byrne, et al. (1968), viz., by combining ratings on how much the stimulus person would be liked and how desirable he was as a working partner. Two levels of attractiveness, trait favorability and attitude similarity were used as independent

variables. Male and female Ss made judgments of both male and female others. Four separate analyses were made, for male Ss and male others, male Ss and female others, female Ss and male others, female Ss and female others. Analysis showed significant main effects for attitude similarity in all four cases, for physical attractiveness in all cases except when male Ss rated male stimuli, and for trait favorability only for female Ss. At first glance, this last finding is not surprising since female Ss seem to value more highly than do males characteristics other than attractiveness. However, it is surprising because of the number of traits given for each stimulus person. Each S was given 5 traits from each of three "friends" of the stimulus person. Fifteen traits, then, were given for each bogus stranger. Since Anderson (1967) showed that increasing the number of traits yielded more extreme responses, we would expect some effect, even for males, with the fifteen traits. It is possible that the results are an artifact of the traits chosen. Anderson (1968b) scaled for likeability on a 7-point scale 555 words. Sub-ranges were determined

for high traits, ranging from 5.00 to 5.45; high-moderate traits from 3.45 to 3.74; low-moderate traits, from 2.22 to 2.54; and low traits from .72 to 1.00. In the experiment under discussion "low" traits had a mean of 2.6 and "high" traits a mean of 4.8. Apparently for females this difference was sufficient enough to be effective, but for males, who place a lesser value on this type of information, it was not.

The interaction between attitude similarity and physical attractiveness reached significance in all but one case, surprisingly enough when males were judging female stimuli. This result is interesting since Stroebe, et al. reported only one significant interaction between similarity and attractiveness in their study. The interaction is consistent with that found by Lampel and Anderson (1968), using traits, i.e., attitude similarity was more effective with high physical attractiveness than with low physical attractiveness. Interaction between trait favorability and attitude similarity reached significance in all but one case, when female Ss judged male stimuli.

The interaction between physical attractiveness and

trait favorability reached significance in only one case, when female Ss were presented female bogus strangers. The lack of effect in other cases may be a result of the traits used, as discussed above. Also, since separate analyses were performed, no interactions involving sex of S were reported.

Sex Differences in Impression Formation

The purpose of the present study is to further explore sex differences in the utilization of physical attractiveness and trait favorability in impression formation.

The studies by Byrne et al. (1968) and Stroebe et al. (1971) each used attitude similarity and physical attractiveness as cues in the impression formation task. While Miller (1972) did use traits in combination with physical attractiveness in his study, the values of the traits used, as previously discussed, suggest the need for further research.

Byrne, et al. (1968) after finding no significant effect for sex of stranger, argue that the sex of the person to be judged need not be controlled. While it

is granted that not varying sex of stranger precludes the possibility of some interesting findings, it is felt that using stimulus persons of one sex for both male and female Ss will yield fruitful results of some generalizability. Specifically, this study is concerned with sex differences in the use of cues, and is not an investigation of differences resulting from the use of the numerous classes of stimulus persons possible, e.g., Black, White, young, old, as well as male, female.

It was not expected that sex of S differences would be significant, as no sex differences were found in the studies by Byrne et al. (1968), Miller (1972), or Stroebe et al. (1971). It was predicted that physical attractiveness and trait favorability would have significant effects on impression formation. Since evidence seems to indicate that males value attractiveness more than females, and females utilize other characteristics more than males, significant interactions were expected between sex of S and both attractiveness and trait favorability. Specifically, in the attractiveness x trait interaction, it was expected that females would give higher ratings than male Ss to stimulus

persons attributed traits of high value, and lower ratings than male Ss to those stimulus persons attributed traits of low value. In the interaction between physical attractiveness and sex of S, the prediction was that males would give higher ratings than females to stimulus persons of high attractiveness, and lower ratings than female Ss to stimulus persons of low attractiveness. A significant interaction was also expected between physical attractiveness and trait favorability, in line with the discounting hypothesis of Lampel and Anderson (1968), that is, it was predicted that trait favorability would have a greater effect when in combination with photos of high attractiveness than when in combination with photos of low attractiveness.

Finally, it was decided to vary the source of the trait information provided the Ss, with half the Ss being told that the traits were attributed to the stimulus persons by "friends", and half the Ss being told the traits are a result of personality "tests" taken by the stimulus persons. This was suggested by a comment by Miller (1972) in interpreting his results showing a significant trait effect for females, but not for males.

He suggests that females are more inclined to conform to social judgments than are males (p.201). If this were the case, females might be expected to conform even more to a source which appears to be more authoritative, viz., personality tests. However, in light of other research, (e.g., Byrne et al. 1968, Stroebe et al. 1971), it would seem more parsimonious to simply say that females utilize information, such as traits, more than males rather than say that they conform more. While demonstrating equal effectiveness of trait favorability on impression formation regardless of source does not disprove the conformity hypothesis, it does make the trait valuation hypothesis more plausible. Therefore, no significant main effects for source differences were predicted, nor is the interaction between source and sex of S expected to attain significance.

In summary, significant main effects for physical attractiveness and trait favorability were hypothesized, as well as significant interactions between sex of S and physical attractiveness, sex of S and trait favorability, and physical attractiveness and trait favorability. No significant effects were expected involving source of information.

METHOD

Subjects

Ss were 40 male and 40 female Caucasian undergraduate students at Northeastern Illinois University and Loyola University, Chicago. All Ss were single and between the ages of 18 and 22.

Physical Attractiveness

Three levels of physical attractiveness (high, moderate, low) were used. Nine photographs of Caucasian females without glasses, three at each level, were selected from those previously used by Kopera, Maier and Johnson (1971).

As part of their study, Kopera et al. (1971) projected 84 yearbook pictures from an Eastern college on a screen. These were rated for attractiveness on a 7-point scale by 53 female and 55 male undergraduates. Analysis yielded no sex differences in the ratings obtained, and a correlation coefficient of .93 was obtained between ratings by males and ratings by females.

The mean attractiveness ratings of the three groups of photos was 5.59, 4.01, and 2.38 for high, moderate and low attractiveness, respectively. The values of the photos used are listed in Table 1. The photos were each projected on a screen for approximately 30 seconds.

Traits

Traits were selected from the previously discussed list scaled for likeability by Anderson (1968b). Three traits at a single level of likeability were attributed to each photograph, and three levels of likeability were used. Since there were three levels of attractiveness, three groups of traits at each level of likeability were chosen, thus allowing each level of attractiveness to be paired with each level of likeability. The mean likeability rating of the high traits was 5.45, of the moderate traits, 3.00, and of the low traits, .61. The traits, high, moderate and low, their likeability values, and the means of each of the groups of traits are given in Tables 2,3, and 4, respectively.

Table 1

Mean Attractiveness Ratings of Photographs
and the Group Means on a 1-7 Scale

Attractiveness Level	Photo	Rating	Group Means
High	1	5.87	5.59
	2	5.62	
	3	5.27	
Moderate	4	4.11	4.01
	5	4.06	
	6	3.88	
Low	7	2.64	2.38
	8	2.28	
	9	2.22	

Table 2
High Traits, Their Likeability Values and
the Group Means on a 0-6 Scale

Traits	Likeability Values	Group Means
Sincere	5.73	5.47
Trustworthy	5.39	
Thoughtful	5.29	
Honest	5.55	5.46
Loyal	5.47	
Intelligent	5.37	
Understanding	5.49	5.43
Truthful	5.45	
Dependable	5.36	

Table 3
Moderate Traits, Their Likeability Values
and the Group Means on a 0-6 Scale

Traits	Likeability Values	Group Means
Perfectionistic	3.22	3.00
Aggressive	3.04	
Restless	2.74	
Excitable	3.17	2.94
Shy	2.91	
Lonesome	2.74	
Quiet	3.11	3.06
Unpredictable	2.90	
Impulsive	3.07	

Table 4

Low Traits, Their Likeability Values and
the Group Means on a 0-6 Scale

Traits	Likeability Values	Group Means
Phony	.27	
Conceited	.74	.61
Selfish	.82	
Dishonest	.41	
Unkind	.66	.61
Rude	.76	
Obnoxious	.48	
Malicious	.52	.61
Loud-mouthed	.83	

Procedure

Upon entering the experimental room Ss were told the nature of their task, viz., forming impressions of people using photographs and traits attributed to them. The Ss were given booklets containing nine sections, one for each of the photos to be shown. The left hand side of each section contained a list of three trait words of either high, moderate or low likeability. On the right hand side were three items from Byrne's (1971) Interpersonal Judgment Scale. The three items were presented as 7-point scales ranging from very positive to very negative judgments, and dealt with the probability of liking the person, the desirability of the person as a work partner, and the probable level of adjustment of the person. A copy of the scale appears in the Appendix.

Since there were nine photographs and nine groups of traits, 81 photo-trait combinations were possible. Twenty-seven of these possible combinations were used. This was accomplished by using three randomly chosen orders of the groups of traits so that three different photo-trait combinations were obtained for each photo.

Instructions

All Ss were first given the following general instructions:

You are going to see pictures of people and three adjectives which describe each person. I am going to ask you to imagine each person, and to tell me how much you think you might like such a person, how much you think you would like to work with such a person, and how well adjusted you think such a person to be. There are no right or wrong answers, so please give your own personal opinion.

Following the general instructions, more specific instructions were given. Two sets of instructions were used. In one case, the source of the trait information was said to be three of the person's "friends"; in the other, the traits were said to come from personality "tests" the person had taken. The "source one" instructions are the equal accuracy instructions used by Anderson and Jacobson (1965).

(Source 1)-Imagine that three people have each contributed one word describing the person. These three people all know the person well, and each word is equally important in describing the person. Sometimes, of course, the three words may seem inconsistent. That's to be expected because each of the three people might see a different part of the person's personality. However, all three words are accurate, and each word is equally important. You should pay equal attention to each of the three. Sometimes this may seem hard, but just act naturally, and do the best you can.

(Source 2)-Imagine that each of the persons pictured has taken a series of personality tests. Based on these tests, three trait words which best describe the person have been chosen. Each word is equally important in describing the person, so you should pay equal attention to each of the three. Sometimes this may seem hard, but just act naturally, and do the best you can.

Twenty males and 20 females received each set of specific instructions.

Statistical Analysis

An analysis of variance was performed for sex of S, source of trait information, physical attractiveness, trait likeability, and the three dependent measures. Specifically, a $2 \times 2 \times 3 \times 3 \times 3$ factorial design was used, with repeated measures on levels of attractiveness, levels of trait favorability, and the three dependent measures.

RESULTS

In the analysis performed judgments for liking, working with, and adjustment were averaged. Averaging over judgments for liking and working with is common (e.g., Byrne et al., 1968). Byrne and Nelson (1965) reported a split-half reliability of .85 when these two scale items were combined. Byrne (1971) cited the results of a factor analysis of the seven item Interpersonal Judgment Scale reported by Baskett in his dissertation. Only one major factor was found which correlated .88 with the combined judgments of liking and working with, and .79 with ratings of adjustment. Since the three items correlated highly with the "evaluation factor" found in Baskett's study, it was decided to average over the three items in order to get a more reliable measure of overall attraction. However, the three measures were made a separate factor to examine the possibility that the individual ratings were actually quite different. A summary of the analysis of variance is given in Table 5. No significant main

Table 5
Summary of Analysis of Variance

Source	df	MS	F
Source (S)	1	.20	.03
Sex of <u>S</u> (X)	1	10.28	1.45
SxX	1	5.10	.78
error between <u>Ss</u>	76	7.09	---
Physical Attractiveness (P)	2	134.07	41.60***
SxP	2	7.01	2.17
XxP	2	19.69	6.11*
SxXxP	2	3.02	.94
error within <u>Ss</u> ₁	152	3.22	---
Traits (T)	2	1499.49	174.29***
SxT	2	7.60	.88
XxT	2	26.21	3.05**
SxXxT	2	5.68	.66
error within <u>Ss</u> ₂	152	8.60	---
Dependent Variables	2	1.20	1.62
SxV	2	.18	.25
XxV	2	.49	.67
SxXxV	2	.48	.66
error within <u>Ss</u> ₃	152	.74	---

Table 5 Continued

Source	df	MS	F
PxT	4	28.20	13.52***
SxPxT	4	3.71	1.78
XxPxT	4	.71	.34
SxXxPxT	4	2.32	1.11
error within \underline{Ss}_4	304	2.07	---
PxV	4	.83	1.97
SxPxV	4	.77	1.81
XxPxV	4	1.01	2.39**
SxXxPxV	4	.31	.72
error within \underline{Ss}_5	304	.42	---
TxV	4	7.12	12.69***
SxTxV	4	.24	.42
XxTxV	4	.82	1.47
SxSxTxV	4	1.03	1.84
error within \underline{Ss}_6	304	.56	---
PxTxV	8	.55	1.35
SxPxTxV	8	.18	.44
XxPxTxV	8	.36	.87
SxXxPxTxV	8	.20	.49
error within \underline{Ss}_7	608	.41	---

* $p < .01$ ** $p < .05$ *** $p < .001$

effect was obtained for the dependent variables. The dependent variables were, however, involved in two significant interactions, one involving trait likeability, and the other involving sex of S and physical attractiveness.

The interaction between trait favorability and the dependent variables is illustrated in Figure 1, with the mean judgments listed in Table 6. Further analyses, using the t test, were performed. The results of these analyses indicated no significant differences for the dependent variables at a high level of trait favorability. However, Ss indicated a greater willingness to like than to work with (t = 3.10, df = 79, $p < .01$) and to like than to rate as adjusted (t = 3.30, df = 79, $p < .01$) those stimulus persons of moderate trait value. The difference between the ratings of adjustment and the rating of the desirability as work partners of persons of moderate trait favorability failed to reach significance (t = .94, df = 79). It can be seen in Table 6 that the ratings for the likeability and desirability

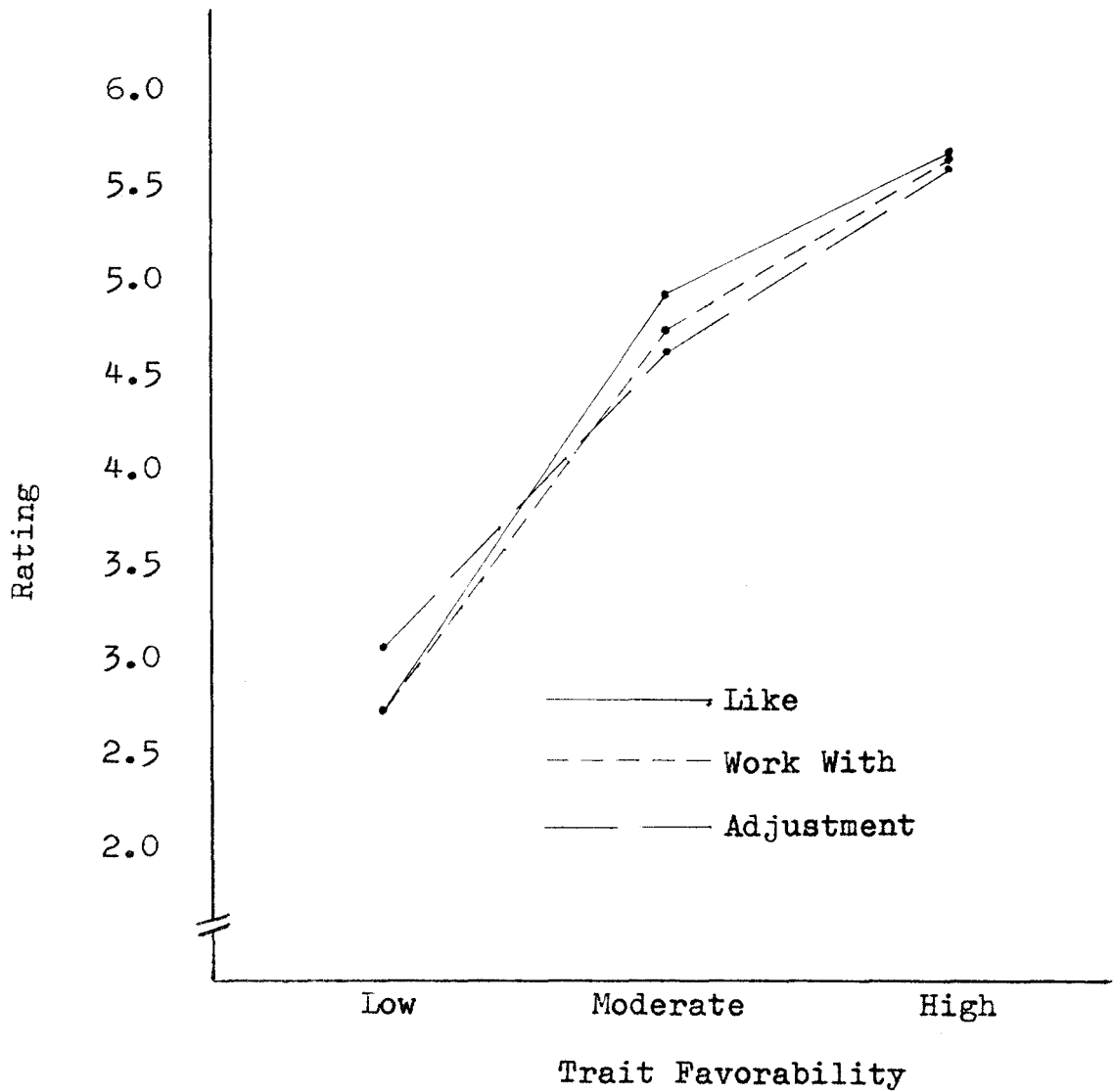


Figure 1. Mean Rating as a Function of Trait Favorability and Dependent Variables.

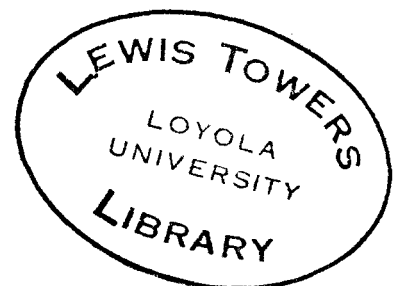


Table 6
Mean Ratings as a Function of Trait Favorability
and the Dependent Variables

Dependent Variable	Trait Favorability		
	Low	Moderate	High
Like	2.73	4.92	5.69
Work With	2.73	4.75	5.68
Adjustment	3.09	4.66	5.63

as a work partner of those persons described by traits of low value was identical. However, the ratings of adjustment for these same persons is higher. For example, the difference between the Ss' indicated willingness to work with such a person and the Ss' ratings of such a person's adjustment is significant at the .001 level ($t = 4.11$, $df = 79$). This finding implies that Ss are less willing to give a low rating of adjustment to persons of low trait favorability than to say that these persons are not likeable or are undesirable as work partners.

The interaction between sex of S, physical attractiveness and the dependent variables is illustrated in Figure 2, with the means listed in Table 7. It can be seen that for male Ss judging persons of high attractiveness, the largest difference was between the ratings of likeability and the ratings of adjustment. This difference was not significant ($t = 1.36$, $df = 39$). However, when the male Ss judged persons of low attractiveness the mean rating of adjustment was significantly greater than the mean ratings of either like-

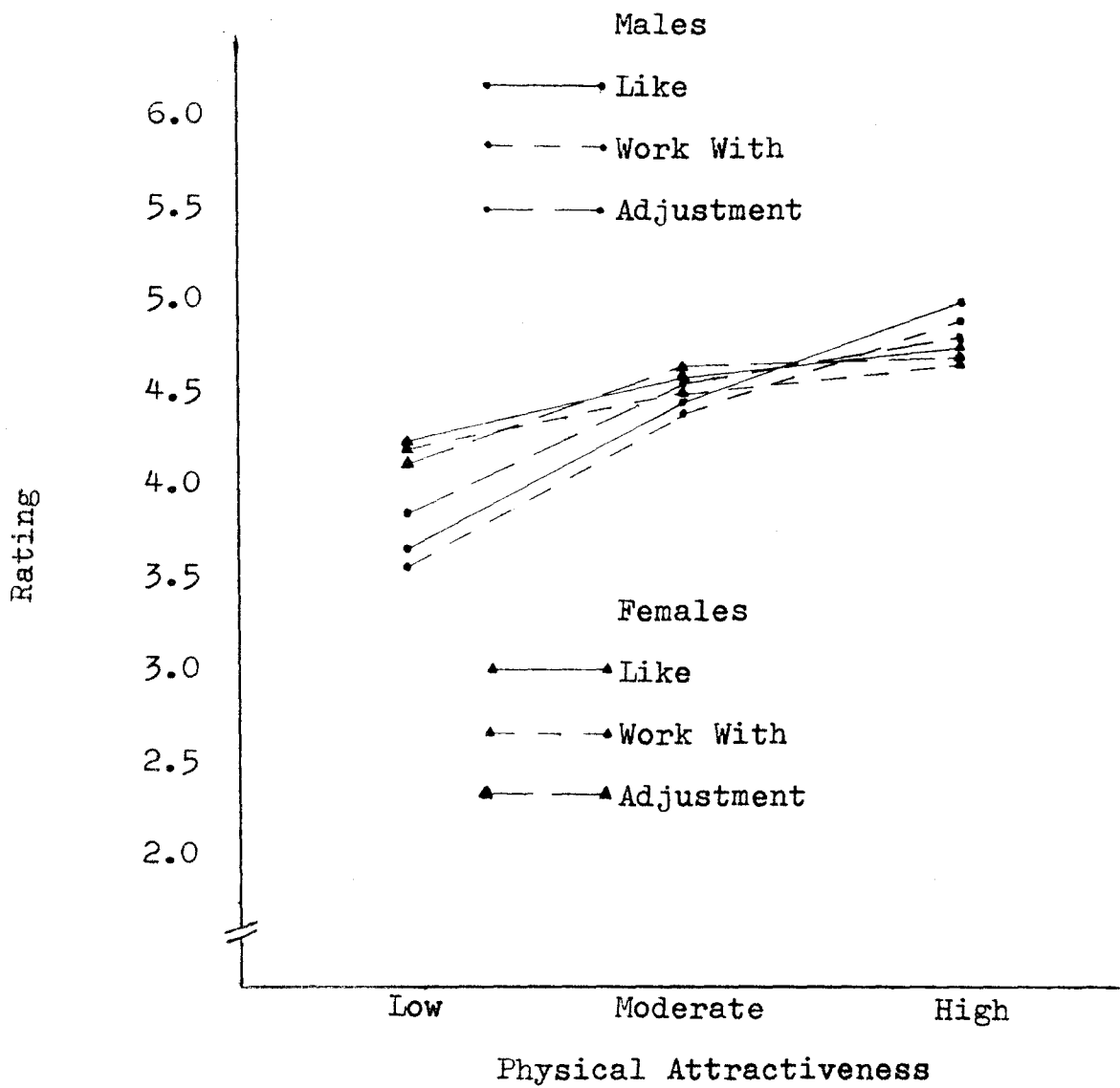


Figure 2. Mean Ratings as a Function of Sex of S, Physical Attractiveness and the Dependent Variables.

Table 7

Mean Ratings as a Function of Sex of S, Physical Attractiveness, and the Dependent Variables and the Mean Rating Across Dependent Variables for Each Level of Attractiveness

Dependent Variable	Males		
	Physical Attractiveness		
	Low	Moderate	High
Like	3.68	4.46	4.97
Work With	3.59	4.41	4.90
Adjustment	3.88	4.58	4.81
Mean Across Dependent Variables	3.72	4.48	4.89

Table 7 Continued

Dependent Variable	Females		
	Physical Attractiveness		
	Low	Moderate	High
Like	4.23	4.62	4.76
Work With	4.22	4.53	4.67
Adjustment	4.14	4.67	4.69
Mean Across Dependent Variables	4.19	4.60	4.70

ability or desirability as a work partner ($\underline{t} = 2.46$, $df = 39$, $p < .05$ and $\underline{t} = 3.18$, $df = 39$, $p < .01$, respectively). The difference between the mean ratings for likeability and desirability as a work partner failed to reach significance ($\underline{t} = 1.43$, $df = 39$). This indicates that male Ss would be less willing to make negative judgments of adjustment than they would to say that they would not like or would not like to work with persons of low physical attractiveness.

For female Ss judging persons of high attractiveness, the largest difference was between the ratings of likeability and the desirability of the person as a work partner. This difference failed to reach significance ($\underline{t} = .88$, $df = 39$). When the difference between the mean ratings of likeability and adjustment by female Ss for persons of low attractiveness was investigated, it also failed to reach significance ($\underline{t} = 1.00$, $df = 39$).

Additional \underline{t} tests were performed comparing the mean ratings by male and female Ss for each of the dependent variables. Since it was predicted that male Ss would give higher ratings than female Ss to stimulus persons of high attractiveness, and lower ratings than

female Ss to persons of low attractiveness, one-tailed tests were used. When making judgments of persons of high attractiveness, the differences failed to reach significance for any of the variables (\underline{t} = 1.29, 1.35, and .71 for liking, working with, and adjustment, respectively, with $df = 78$ in each case). When making judgments of persons of low attractiveness, the difference between male and female ratings of likeability and the desirability of the person as a work partner both reached significance (\underline{t} = 2.58, $df = 78$, $p < .01$ for the former, \underline{t} = 2.97, $df = 78$, $p < .005$ for the latter). The difference between the ratings of adjustment given by male and female Ss for persons of low attractiveness failed to reach significance (\underline{t} = 1.31, $df = 78$).

The analysis of variance revealed no significant main effects for source of information or sex of S. The main effects for both physical attractiveness and trait favorability were significant at the .001 level. The source of information factor was not involved in any significant interaction, while

significance was reached by the interaction involving sex of S and physical attractiveness, sex of S and trait favorability, and physical attractiveness and trait favorability.

The interaction between sex of S and attractiveness is illustrated in Figure 3, with the means listed in Table 7. The difference in ratings between male Ss and female Ss for persons of high attractiveness failed to reach significance ($t = 1.28$, $df = 78$, one-tailed test). The difference in the ratings for persons of low attractiveness, however, reached the .005 level of significance ($t = 2.48$, $df = 78$), with a one-tailed test again being used.

The interaction between sex of S and trait favorability is illustrated in Figure 4, with the means listed in Table 8. Since it was predicted that females would rate higher than males those stimulus persons assigned highly valued traits, and lower than males those stimulus persons assigned traits of low value, one-tailed t tests were again used. The difference in the ratings given by male and female Ss to persons

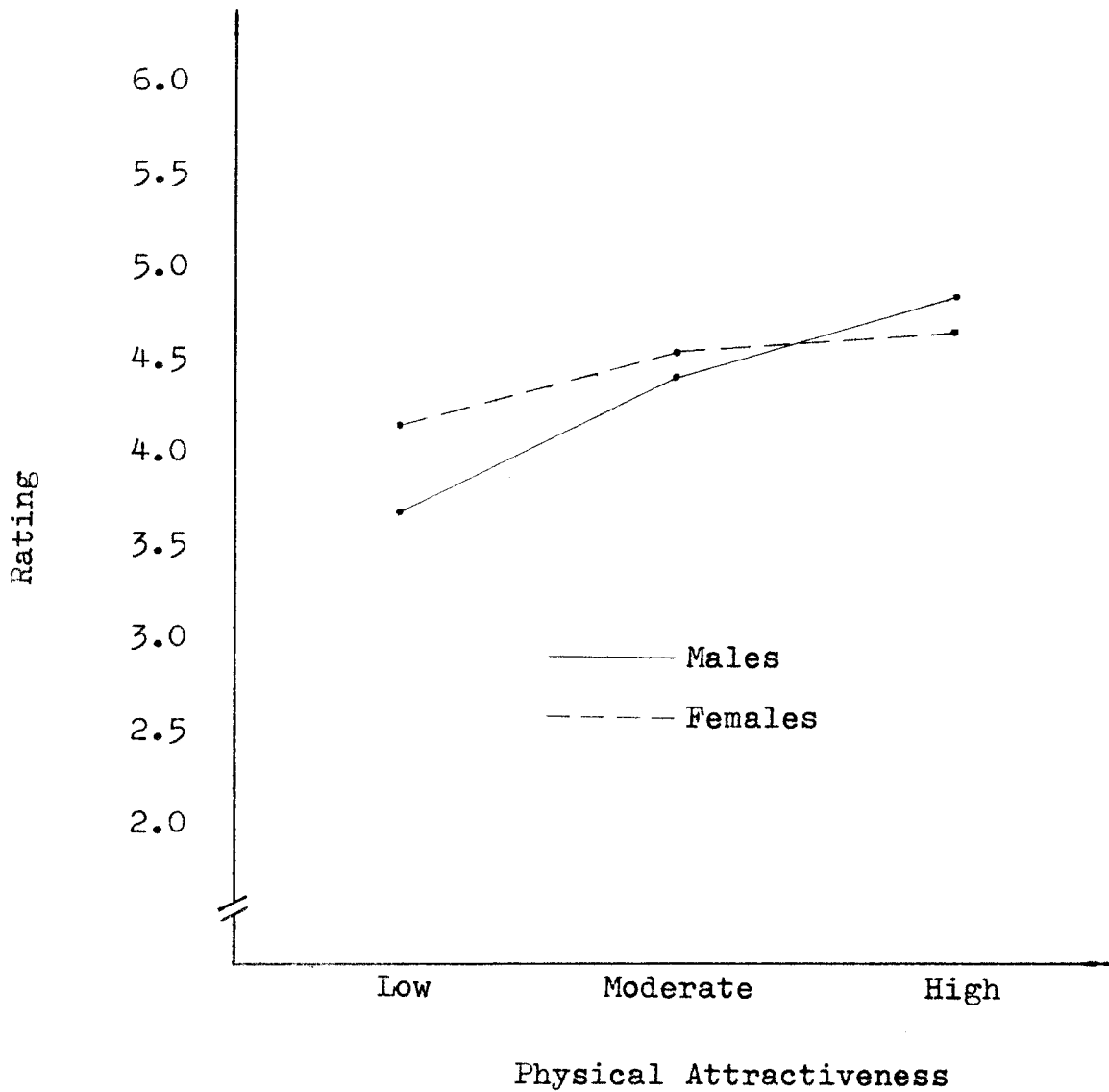


Figure 3. Mean Rating as a Function of Sex of S and Physical Attractiveness.

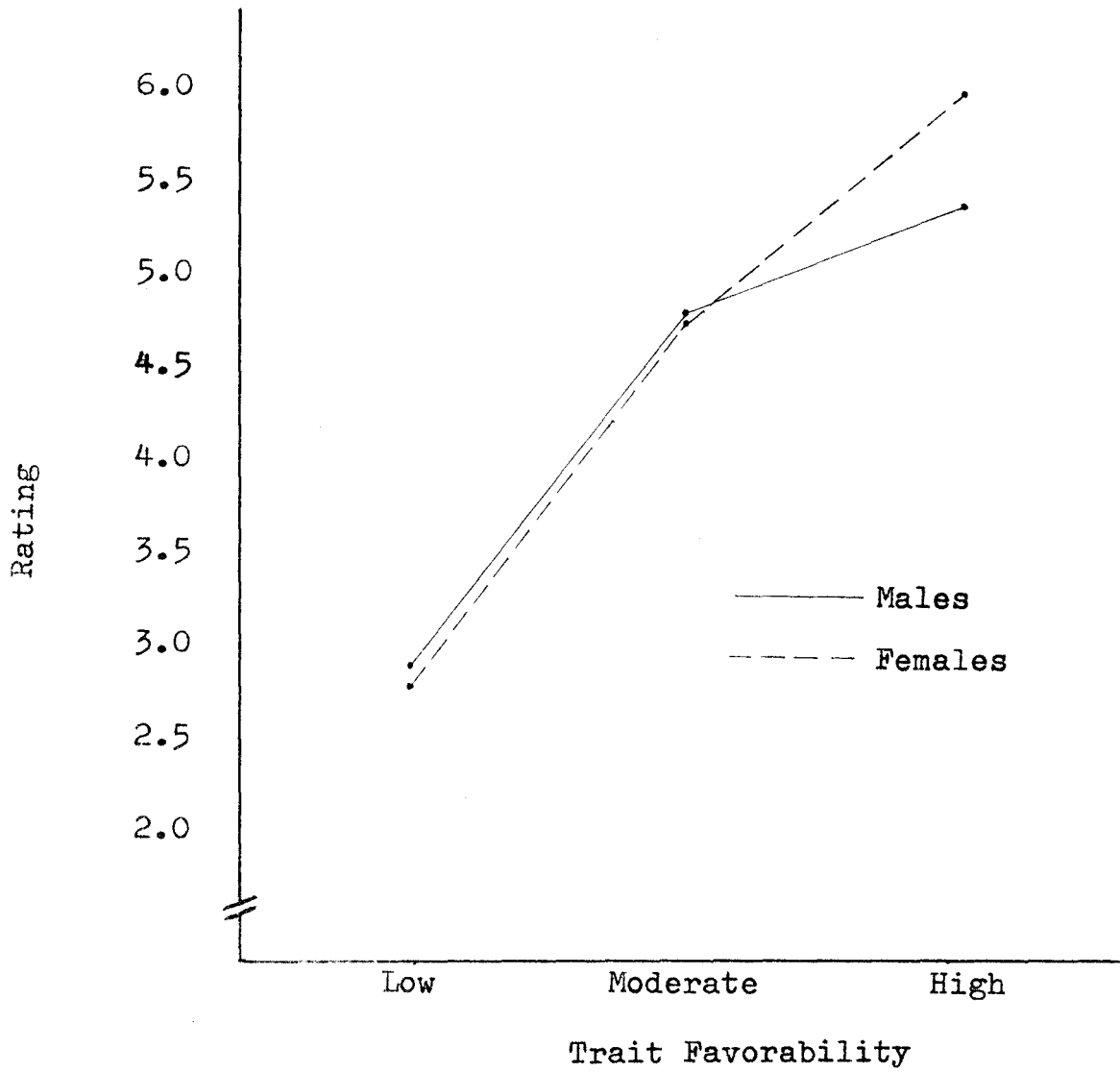


Figure 4. Mean Rating as a Function of Sex of S and Trait Favorability.

Table 8
Mean Ratings as a Function of Sex of S and
Trait Favorability

Sex of <u>S</u>	Trait Favorability		
	Low	Moderate	High
Males	2.90	4.81	5.38
Females	2.79	4.75	5.96

described by high traits was significant at the .005 level ($t = 3.34$, $df = 78$), while the difference in the ratings given to persons described by low traits failed to reach significance ($t = .35$, $df = 78$).

The interaction between physical attractiveness and trait favorability is illustrated in Figure 5, with the mean rating values listed in Table 9. Further analyses were performed using t tests on the differences at each level of attractiveness between the mean ratings for persons assigned high traits and persons assigned moderate traits, and between the mean ratings for persons assigned moderate traits and persons assigned low traits. Since it was expected that the assignment of high traits would result in higher ratings than the assignment of moderate traits, and that the assignment of moderate traits in higher ratings than the assignment of low traits, one-tailed tests were used. All differences examined reached significance. At the high level of attractiveness, the differences between the mean rating of persons defined by high traits and that of persons defined by moderate

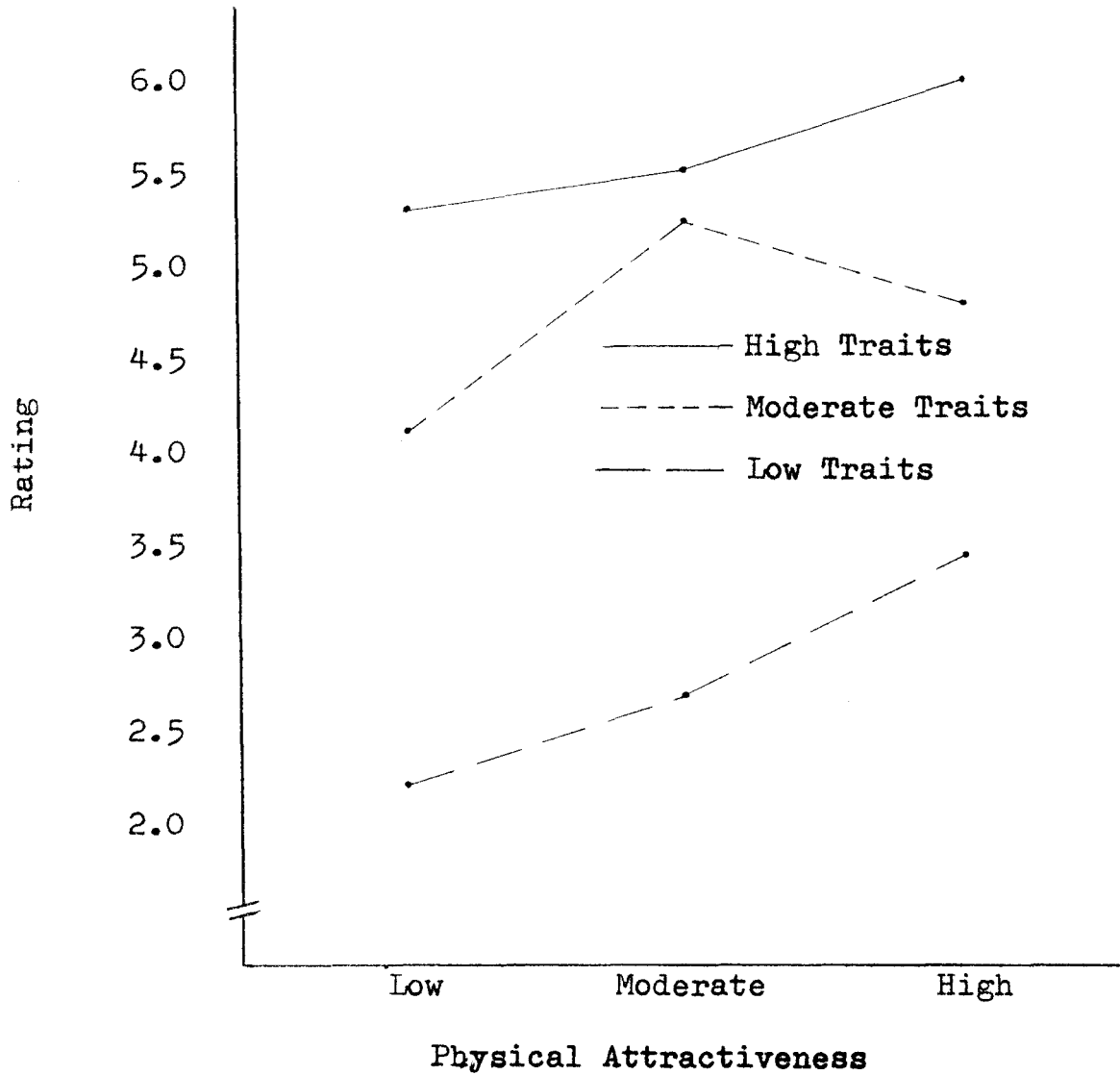


Figure 5. Mean Ratings as a Function of Physical Attractiveness and Trait Favorability.

Table 9
Mean Ratings as a Function of Physical Attractiveness
and Trait Favorability

Trait Favorability	Physical Attractiveness		
	Low	Moderate	High
High	5.39	5.58	6.04
Moderate	4.19	5.30	4.86
Low	2.29	2.75	3.50

traits, and between the mean rating of persons defined by moderate traits and that of persons defined by low traits both reached significance beyond the .001 level. (\underline{t} = 7.43 and 7.16 respectively, df = 79 in each case). At the moderate level of attractiveness the difference between the mean ratings for persons described by high traits and persons described by moderate traits reached the .05 level of significance (\underline{t} = 1.87, df = 79), while the difference between the mean ratings of the persons described by moderate traits and the persons described by low traits went beyond the .001 level of significance. (\underline{t} = 14.94, df = 79). When combined with traits of high value, photos of low attractiveness were rated significantly higher than photos of low attractiveness combined with traits of moderate value (\underline{t} = 6.90, df = 79, p < .001). The combination of photos of low attractiveness and traits of moderate value produced significantly higher ratings than did the combination of photos of low attractiveness and traits of low value (\underline{t} = 11.67, df = 79, p < .001). Unexpected was the finding that persons of moderate attractiveness described by moderate

traits were given higher ratings than persons of high attractiveness described by moderate traits ($\underline{t} = 3.01$, $df = 79$, $p < .01$).

DISCUSSION

The results support the hypotheses made in the sense that significance was reached for main effects and interactions where predicted. The hypothesized significance of the main effect for physical attractiveness was supported by the data. This is not surprising as a person's appearance gives us information from which to draw inferences. A person may "look" athletic, serious or stupid. Unless we have previous information, the image a person presents upon first meeting is all we know about him and has to be used in forming an impression. There is truth to the saying that first impressions are important, and these first impressions must often be based primarily on physical appearance.

The predicted significant main effect for trait favorability also received support from the data. Such information is specific enough to allow inferences to be drawn easily, and general enough to make judgments about a person's behavior in many different

situations. Knowing a person is sincere, or honest, or phony tells us much about how we should expect him to act, or how we should be prepared to act in turn.

The main effect for sex of S was not expected to reach significance, and it did not. This simply reflects the fact that whatever sex differences do exist in the utilization of various kinds of information in an impression formation task tend to balance out so that the overall judgments are similar. The main effect for the dependent variables also failed to reach significance. This indicates that the differences which exist when judgments are made using these three scale items tend to average out when combined across various photo-trait combinations.

The hypothesis was made that no significant main effects would be obtained by manipulating the source of the trait information. The data supported this hypothesis. Furthermore, the source of information was not involved in any significant interactions. This implies that the two sources used, the opinion of friends and the results of personality tests, are equally credible. This may be interpreted in several ways.

It may be that people see the results of personality tests as being no more valid than common opinion; a not very encouraging judgment made on those who labor in test construction and validation. However, if psychologists can only tell us that intelligence is what an intelligence test measures, skepticism about the results may be well founded. Another possibility is that personality tests are just as valid as sources of information about a person as the information received from people who know the person well. This is what the Ss were told when friends allegedly were the source of the trait information. If it is assumed that when someone knows a person well his description of that person is accurate, then the results here indicate that personality tests are perceived as being equally accurate. Finally, the lack of significant effect for source of information may be due to the type of information given, viz., traits of the sort that people usually use to describe one another. It would seem that if the information were

couched in more technical language, such that would not be ordinarily used by the layman, e.g., manic, deluded, phobic, traumatized, Ss might be more inclined to accept the personality profile of a more objective and authoritative source.

In addition to the hypothesized lack of main effect for source of information, it was predicted that the interaction between sex of S and source of information would not be significant. As mentioned above, source of information was not involved in any significant interactions. If females were to conform more than males to social judgments, as proposed by Miller (1972), then sex differences in conformity to different sources of information might be expected. The results do not indicate such a difference. Further experimentation, with sources of information varied more extensively, might yield such data. Research has shown that varying sources of information can affect judgments made on the basis of the information received (Rosenbaum, 1967; Rosenbaum & Levin, 1968; Rosenbaum & Levin, 1969), but

sex differences were not investigated. Experiments with male and female Ss in which the source of information was systematically varied could tell us much about sex differences in response to different sources of information. The referent of the information might also be important. For example, a man's information about a woman might be interpreted in one way, while a woman's information about a woman might be interpreted in another way.

It was hypothesized that males value physical attractiveness more than females. This implies a significant sex of S x physical attractiveness interaction in which male Ss give higher ratings than female Ss to persons of high attractiveness, and give lower ratings than female Ss to persons of low attractiveness. While the interaction was significant, only half of the hypothesis was supported. Analysis showed that while male Ss did give significantly lower ratings than did female Ss to persons of low attractiveness, male Ss did not give significantly higher ratings than did female

Ss to persons of high attractiveness. This might still be interpreted as evidence that males do value attractiveness more than females, since males show less willingness than do females to accept a person, at least a female person, of low attractiveness. It may be that in judging males, females would demonstrate a similar tendency, i.e., to value less than males persons of low attractiveness, but not to value more than do males persons of high attractiveness. This would simply indicate that in judging persons of the opposite sex, people tend to have higher minimal standards of physical attractiveness than in judging same sex others.

It was expected that the interaction between sex of S and trait favorability would show females rating higher than do males stimulus persons assigned traits of high value and rating lower than do males stimulus persons assigned traits of low value. As in the interaction between sex of S and physical attractiveness, only half of the hypothesis was supported. However, in this case the difference in the ratings given by male and female

Ss was significant when highly valued characteristics were being considered. Specifically, female Ss rated more highly than did male Ss stimulus persons described by traits of high value, but did not give ratings significantly different from those given by male Ss to stimulus persons described by traits of low value. If it is assumed that females have primarily female friends, and males have primarily male friends, then it is possible that female Ss, given the task of making judgments of female others, perceive them as possible friends, while males given the same task perceive them as possible acquaintances. Certainly, traits of high value are more important in friends than in acquaintances. It could also be argued, of course, that males can view the female others as possible dates or mates, in which case high traits might perhaps be more highly valued by the male S than by the female S. As in the case of the interaction between sex of S and physical attractiveness, further research in which male and female Ss judge male and female stimulus persons is indicated. Also relevant would be information on the

acceptability of persons described by several different attractiveness-trait combinations as acquaintances, friends, dates, and marriage partners.

The interactions between trait favorability and physical attractiveness reached a significance of .001, however the results were not as expected. It was predicted that traits would have a greater effect when combined with photos of higher value than when combined with photos of lower value. That the opposite occurred can be demonstrated by computing the difference, across photo value, for traits of high and low favorability ratings. For example, the difference, for photos of high attractiveness, between the mean ratings of the stimulus persons assigned high traits and the stimulus persons assigned low traits was 2.54. The comparable difference for stimulus persons of low attractiveness was 3.10. This is inconsistent with the results obtained by Lampel and Anderson (1968) who proposed that traits are discounted when in combination with photos of low attractiveness value. It is possible that this inconsistency may be attributed to the difference

between the traits chosen for this study and those used by Lampel and Anderson (1968). The mean value of the highest groups of traits in this study was 5.45, while the mean value of the highest groups of traits used by Lampel and Anderson (1968) was 4.70. If it were simply the values of the high traits that affected the results, the ratings of those persons assigned moderate traits might be expected to conform to the hypothesis made. However, the data did not bear this out. Nonetheless, the values of the traits chosen for this study could have been related to the difference obtained because of the relative value of the photos and the traits used. The photos were rated on a scale of one to seven (Kopera et al., 1971), while the traits were rated on a scale of zero to six (Anderson, 1968b). This means that the traits used in this study had a relatively higher value than did the photos. For example, the mean rating of the photos of high attractiveness was 5.59, while the mean rating of the traits of high value was 5.45. However, when the scale value of the traits is adjusted to that of the photos, the mean rating of the highly valued

traits becomes 6.45. It is possible, then, that the relative value of the traits and photos used in this study played a part in producing results inconsistent with those of Lampel and Anderson (1968). It would be of interest to know the relative values of the photos and traits used in other studies; however, the authors (Lampel & Anderson, 1968; Miller, 1972) do not report the values of the photos they used.

Another possible explanation of the strong effect of trait favorability is that three traits were combined with each photo in this study while only two were used by Lampel and Anderson (1968). The present results would be consistent with Anderson's (1967) finding that increasing set-size increases the effect of a group of traits. This interpretation raises questions about the lack of effect for trait favorability ratings of male Ss in the research done by Miller (1972), discussed in a previous section. In his study 15 traits were assigned to each stimulus person. Research involving the combination of photos with sets of traits varying in size and value would perhaps resolve the inconsistency.

The most perplexing finding of this study is that persons of moderate physical attractiveness who are described by moderate traits were rated higher than persons of high attractiveness who were described by moderate traits. Perhaps a type of contrast effect took place. Miller (1972) has shown that persons of high attractiveness are perceived as possessing relatively more favorable traits than persons of low attractiveness. It may be that a person of high attractiveness possessing traits of only moderate value is judged in relation to the traits he could possess, and thus is rated lower. A person of moderate attractiveness, possessing traits of moderate value, might then be perceived as being somewhat better than expected and thus would receive a higher rating. The need for further research involving moderate levels of attractiveness and moderately favorable traits is clearly indicated.

The significance of the interaction between trait favorability and the dependent variables is related to differences at moderate and low trait values. Persons

possessing highly valued traits were perceived as equally likeable, adjusted, and desirable as work partners. Persons with moderately favorable traits were seen as more likeable than adjusted or as suitable work partners. It may be that persons possessing moderately valued traits are perceived as having some weaknesses, thus making them less well adjusted and less well suited to be work partners than they are to be less liked. They are apparently liked because they are not, after all, bad people. Persons attributed traits of low value are seen as being relatively more adjusted than they are likeable or suitable work partners. This may be because of hesitancy on the part of the Ss to make extremely negative judgments about a person's adjustment.

The interaction of sex of S, physical attractiveness, and the dependent variables may perhaps be best understood as the differential effect of physical attractiveness on the three judgments made by male and female Ss. This interaction reflects, first of all, the greater weight given to low attractiveness by males. Secondly, the interaction reflects different response patterns on

the three dependent variables for males and females. For female Ss, the decision to average ratings over the three dependent variables, seems to have been justified, at least as a function of attractiveness, as no significant differences were found between the ratings at either the high or low level of attractiveness. For male Ss, no differences were found at the high level of attractiveness, but adjustment was rated higher than either liking or the desirability of the person as a work partner at the low level of attractiveness. This may mean that in making judgments of females, attractiveness gives more differential cues to males than to females, or perhaps it implies that people fail to use such cues when judging a person of the same sex.

Of further interest were the between sex comparisons for each of the dependent variables. At the high level of attractiveness, no significant differences were found. However, at the low level of attractiveness, significant differences were found in the ratings of likeability and desirability of the person as a work partner, but not between the ratings of the person's adjustment.

This is a result of the fact that for persons of low attractiveness males gave a significantly higher rating for adjustment than for the other two variables, while females gave a relatively, though not significantly, lower rating for adjustment than for the other two variables. This seems to imply that when judging females, males do not see being unattractive as indicative of maladjustment, as do females.

This study, an investigation of sex differences in the use of cues in impression formation, seems to have raised more questions than it has answered. Certainly, investigation should be made into differences in cue utilization when forming impressions of a stimulus person of the same or opposite sex. Variations in the source of information, the values of the traits used relative to the values of the photos, variation in set-size, and the peculiar effect caused by the combination of a photo of moderate attractiveness and traits of moderate favorability each could profitably be researched. However, there is one other question to be asked; a question which complicates an already complicated matter.

The question to be raised is of the generalizability of the results of research in artificial situations to real life situations. The problem is most clearly stated by the following example. Stroebe et al. (1971) found that physical attractiveness is more important for judgments of a person as a date than for judgments of a person as a marriage partner. However, in a study by Cavior and Boblett (1972) the correlation of physical attractiveness, based on ratings of photographs, was .19 ($p > .10$) within actual dating couples, while the correlation within engaged or married couples was .73 ($p < .002$). The difference between the correlations reached the .05 level of significance. If such a reversal from laboratory to real world were a general rule, then we would be led to say that physical attractiveness tends to be more important to females than to males, and that other characteristics tend to be weighted more heavily by males than by females. Do artificial situations cause our Ss to lie, or coerce them to conform to what they think are "manly" and "womanly" things to do? Investigation into the general effect of experiment participation on Ss' responses in impression

formation tasks, as well as the correspondence between the results of laboratory and field research is called for.

SUMMARY

This study investigated sex differences in the utilization of physical attractiveness and trait favorability as cues in an impression formation task. Photographs of females at three levels of attractiveness were combined with groups of traits at three levels of favorability. Ss were asked to rate each person so described as to her likeability, her desirability as a work partner, and her level of adjustment. The results indicated that males value less than females persons at a low level of attractiveness, but do not value differently than females persons at high or moderate levels of attractiveness. Traits of high favorability were found to influence females' judgments more than males' judgments, while no difference was obtained between male and female judgments based on moderate or low traits. Ratings on the three scale items tended to be fairly consistent, though some differences were found at moderate and low levels of physical attractiveness. The relationships between the information given and the responses made

could not always be interpreted unambiguously, and further research to better answer some of the questions raised was suggested.

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APPENDIX

Personal Feelings (check one)

- _____ I feel that I would probably like this person very much.
- _____ I feel that I would probably like this person.
- _____ I feel that I would probably like this person to a slight degree.
- _____ I feel that I would probably neither particularly like nor particularly dislike this person.
- _____ I feel that I would probably dislike this person to a slight degree.
- _____ I feel that I would probably dislike this person.
- _____ I feel that I would probably dislike this person very much.

Working Together in an Experiment
(check one)

- _____ I believe that I would very much enjoy working with this person.
- _____ I believe that I would enjoy working with this person.
- _____ I believe that I would enjoy working with this person to a slight degree.
- _____ I believe that I would neither particularly dislike nor particularly enjoy working with this person.
- _____ I believe that I would dislike working with this person to a slight degree.

APPENDIX Continued

_____ I believe that I would dislike working with this person.

_____ I believe that I would very much dislike working with this person.

Adjustment (check one)

_____ I believe that this person is extremely well adjusted.

_____ I believe that this person is well adjusted.

_____ I believe that this person is well adjusted to a slight degree.

_____ I believe that this person is neither particularly maladjusted nor particularly well adjusted.

_____ I believe that this person is maladjusted to a slight degree.

_____ I believe that this person is maladjusted.

_____ I believe that this person is extremely maladjusted.

APPROVAL SHEET

The Dissertation submitted by Anthony A. Kopera has been read and approved by members of the Department of Psychology.

The final copies have been examined by the director of the Dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the Dissertation is now given final approval with reference to content and form.

The Dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

June 13, 1973
Date

Richard A. Maier
Signature of Advisor